

Poster

Splinter Exoplanets

MASSES AND RADII OF THE CARMENES TARGET STARS

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The mass of an individual, isolated star can typically only be determined within large error bars. However, in order to also estimate the mass of a potential planetary companion it is crucial to have a small error bar for the mass of the host star.

For the CARMENES survey we implement different spectroscopic methods of determining the masses of its targets. Since the CARMENES targets are all nearby M dwarfs, they have or soon will have accurate trigonometric parallaxes. This allows us to determine luminosities, radii and finally masses. Depending on which spectroscopic parameters ( $T_{eff}$ ,  $\log(g)$ ) are used, which way of estimating B.C. is employed and which further (empirical) relations need to be applied, we get different accuracies for our results. They are further compared to empirical mass–luminosity relations or (if possible) to independent measurements.